

**In the Claims**

**1. (currently amended)** A process for increasing the molecular weight and/or for the modification of a polycondensate, which process comprises adding to the polycondensate

a) at least one bis-acyllactam[[.]] and

b1) at least one phosphite, phosphinate or phosphonate; or

b2) at least one benzofuran-2-one type compound or

b3) at least one phosphite, phosphinate or phosphonate and one benzofuran-2-one type compound and

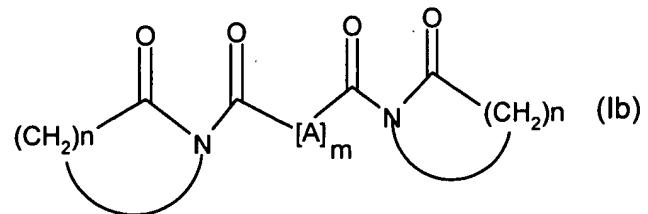
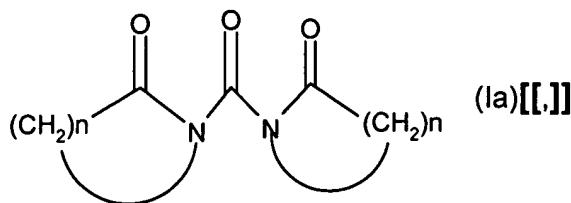
processing the mixture in the melt.

**2. (currently amended)** A process according to claim 1 wherein the polycondensate is an aliphatic or aromatic polyester, an aliphatic or aromatic polyamide or polycarbonate[[.]] or a blend or copolymer thereof.

**3. (currently amended)** A process according to claim 1 wherein the polycondensate is polyethylene terephthalate (PET), polybutylene terephthalate (PBT), polyethylenenaphthenate (PEN), a copolyester, PA 6, PA 6,6[[.]] or a polycarbonate containing bisphenol A, bisphenol Z or bisphenol F linked via carbonate groups.

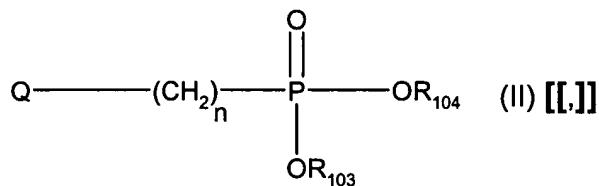
**4. (original)** A process according to claim 1 wherein the polycondensate is PET or PBT or a copolymer of PET or PBT.

**5. (currently amended)** A process according to claim 1 wherein the bis-acyllactam is of formula Ia or Ib



wherein A is C<sub>1</sub>-C<sub>18</sub>alkylene, C<sub>2</sub>-C<sub>18</sub>alkylene interrupted by at least one oxygen atom, C<sub>1</sub>-C<sub>18</sub>alkenylene, phenylene, phenylene-C<sub>1</sub>-C<sub>18</sub>alkylene, C<sub>1</sub>-C<sub>18</sub>alkylene-phenylene[[.]] or C<sub>1</sub>-C<sub>18</sub>alkylene-phenylene-C<sub>1</sub>-C<sub>18</sub>alkylene;  
 m is 0 or 1 and  
 n is a number from 3 to 12.

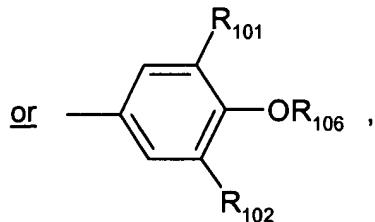
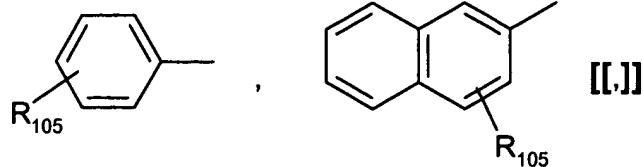
**6. (currently amended)** A process according to claim 1 wherein the phosphonate is of formula II



wherein

R<sub>103</sub> is H, C<sub>1</sub>-C<sub>20</sub>alkyl[[.]] or unsubstituted or C<sub>1</sub>-C<sub>4</sub>alkyl-substituted phenyl or naphthyl,  
 R<sub>104</sub> is hydrogen, C<sub>1</sub>-C<sub>20</sub>alkyl[[.]] or unsubstituted or C<sub>1</sub>-C<sub>4</sub>alkyl-substituted phenyl or naphthyl;  
 or is M<sup>r+</sup> / r,  
 M<sup>r+</sup> is an r-valent metal cation or the ammonium ion,  
 n is 0, 1, 2, 3, 4, 5 or 6[[.]] and  
 r is 1, 2, 3 or 4;

Q is hydrogen,  $-X-C(O)-OR_{107}[[,]]$  or a radical



$R_{101}$  is isopropyl, tert-butyl, cyclohexyl, or cyclohexyl which is substituted by 1-3  $C_1-C_4$ alkyl groups,

$R_{102}$  is hydrogen,  $C_1-C_4$ alkyl, cyclohexyl, or cyclohexyl which is substituted by 1-3  $C_1-C_4$ alkyl groups,

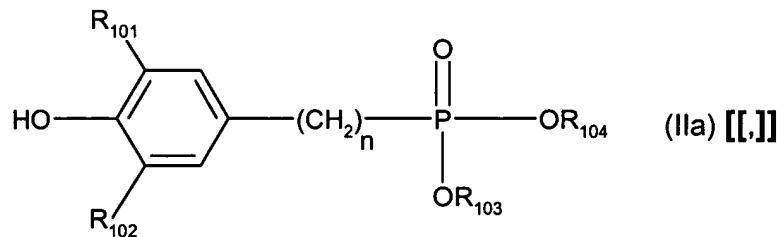
$R_{105}$  is H,  $C_1-C_{18}$ alkyl, OH, halogen or  $C_3-C_7$ cycloalkyl;

$R_{106}$  is H, methyl, trimethylsilyl, benzyl, phenyl, sulfonyl or  $C_1-C_{18}$ alkyl;

$R_{107}$  is H,  $C_1-C_{10}$ alkyl or  $C_3-C_7$ cycloalkyl[[;]] and

X is phenylene,  $C_1-C_4$ alkyl group-substituted phenylene or cyclohexylene.

7. (currently amended) A process according to claim 6 wherein the phosphonate is of formula IIa



wherein

$R_{101}$  is H, isopropyl, tert-butyl, cyclohexyl, or cyclohexyl which is substituted by 1-3  $C_1-C_4$ alkyl groups,

$R_{102}$  is hydrogen,  $C_1-C_4$ alkyl, cyclohexyl, or cyclohexyl which is substituted by 1-3  $C_1-C_4$ alkyl groups,

$R_{103}$  is  $C_1-C_{20}$ alkyl[[,]] or unsubstituted or  $C_1-C_4$ alkyl-substituted phenyl or naphthyl,

$R_{104}$  is hydrogen,  $C_1-C_{20}$ alkyl[[,]] or unsubstituted or  $C_1-C_4$ alkyl-substituted phenyl or naphthyl;

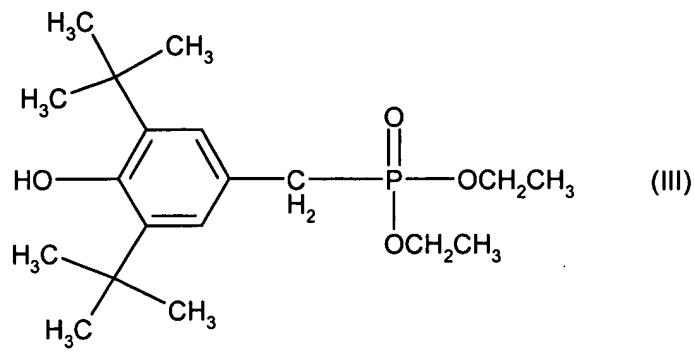
or is  $M^{r+}$  / r;

$M^{r+}$  is an r-valent metal cation,

r is 1, 2, 3 or 4[[;]] and

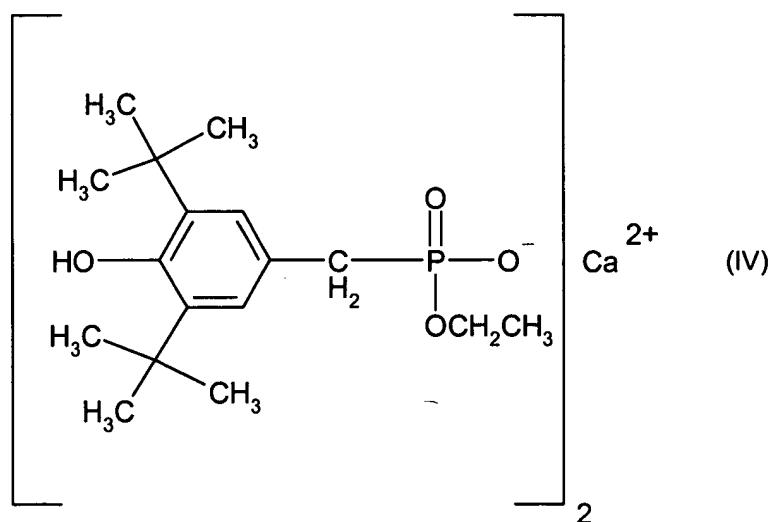
n is 1, 2, 3, 4, 5 or 6.

8. (currently amended) A process according to claim [[1]]6 wherein the phosphonate is of formula III, IV, V, VI or VII

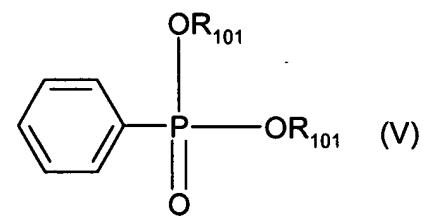


(III)

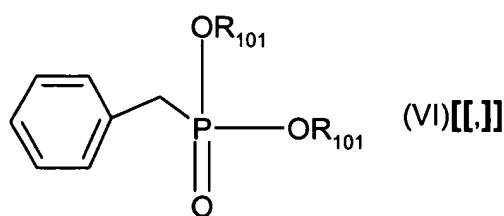
[[;]]



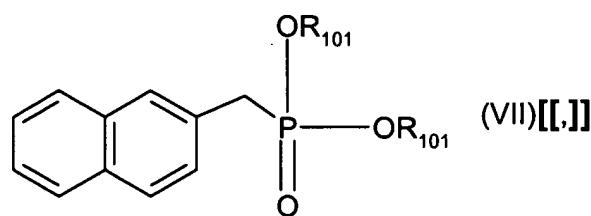
(IV)



(V)



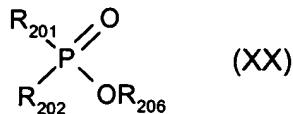
(VI)[[;]]



(VII)[[;]]

wherein the R<sub>101</sub> are each independently of one another hydrogen or M<sup>r+</sup> / r. [[;]]

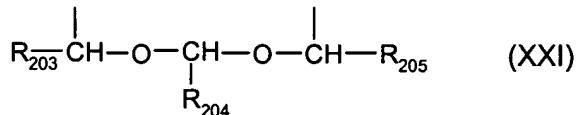
**9. (currently amended)** A process according to claim 1 wherein the phosphinates are of the formula XX



wherein

$\text{R}_{201}$  is hydrogen,  $\text{C}_1\text{-C}_{20}$ alkyl, phenyl or  $\text{C}_1\text{-C}_4$ alkyl substituted phenyl; biphenyl, naphthyl,  $-\text{CH}_2\text{-O-}\text{C}_1\text{-C}_{20}$ alkyl or  $-\text{CH}_2\text{-S-}\text{C}_1\text{-C}_{20}$ alkyl,

$\text{R}_{202}$  is  $\text{C}_1\text{-C}_{20}$ alkyl, phenyl or  $\text{C}_1\text{-C}_4$ alkyl substituted phenyl; biphenyl, naphthyl,  $-\text{CH}_2\text{-O-}\text{C}_1\text{-C}_{20}$ alkyl or  $-\text{CH}_2\text{-S-}\text{C}_1\text{-C}_{20}$ alkyl, or  $\text{R}_{201}$  and  $\text{R}_{202}$  together are a radical of the formula XXI



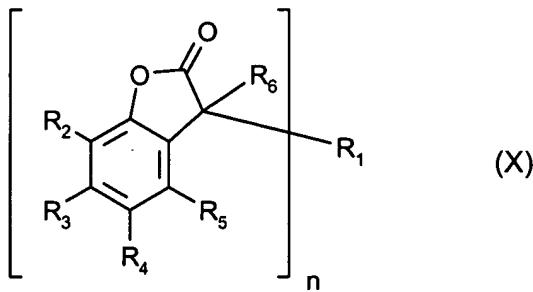
wherein

$\text{R}_{203}$ ,  $\text{R}_{204}$  and  $\text{R}_{205}$  independently of each other are  $\text{C}_1\text{-C}_{20}$ alkyl, phenyl or  $\text{C}_1\text{-C}_4$ alkyl substituted phenyl; and

$\text{R}_{206}$  is hydrogen,  $\text{C}_1\text{-C}_{18}$ alkyl or the ion of an alkali metal or the ammonium ion or

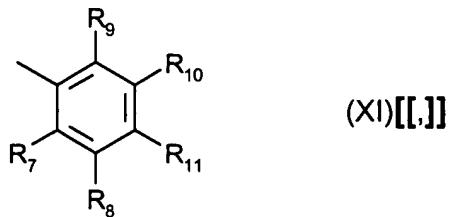
$\text{R}_{206}$  is a direct bond, which forms together with  $\text{R}_{202}$  an aliphatic or aromatic cyclic ester.

**10. (currently amended)** A process according to claim 1 wherein the benzofuran-2-one type compound is of formula X



wherein, if n = 1,

R<sub>1</sub> is naphthyl, phenanthryl, anthryl, 5,6,7,8-tetrahydro-2-naphthyl, 5,6,7,8-tetrahydro-1-naphthyl, thiienyl, benzo[b]thienyl, naphtho[2,3-b]thienyl, thianthrenyl, dibenzofuryl, chromenyl, xanthenyl, phenoxathiinyl, pyrrolyl, imidazolyl, pyrazolyl, pyrazinyl, pyrimidinyl, pyridazinyl, indolizinyl, isoindolyl, indolyl, indazolyl, purinyl, quinolizinyl, isoquinolyl, quinolyl, phthalazinyl, naphthyridinyl, quinoxalinyl, quinazolinyl, cinnolinyl, pteridinyl, carbazolyl,  $\beta$ -carbolinyl, phenanthridinyl, acridinyl, perimidinyl, phenanthrolinyl, phenazinyl, isothiazolyl, phenothiazinyl, isoxazolyl, furazanyl, biphenyl, terphenyl, fluorenyl or phenoazinyl, each of which is unsubstituted or substituted by C<sub>1</sub>-C<sub>4</sub>alkyl, C<sub>1</sub>-C<sub>4</sub>alkoxy, C<sub>1</sub>-C<sub>4</sub>alkylthio, hydroxy, halogen, amino, C<sub>1</sub>-C<sub>4</sub>alkylamino, phenylamino or di(C<sub>1</sub>-C<sub>4</sub>-alkyl)amino, or R<sub>1</sub> is a radical of formula XI



and [[.]]

if n = 2,

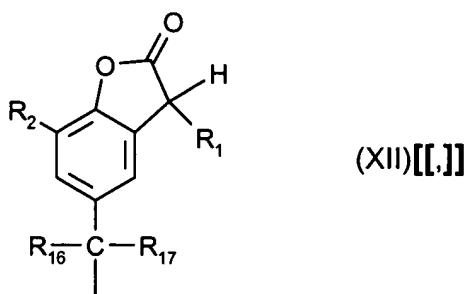
R<sub>1</sub> is unsubstituted or C<sub>1</sub>-C<sub>4</sub>alkyl- or hydroxy-substituted phenylene or naphthylene; or -R<sub>12</sub>-X-R<sub>13</sub>- ,

R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> are each independently of one another hydrogen, chloro, hydroxy, C<sub>1</sub>-C<sub>25</sub>-alkyl, C<sub>7</sub>-C<sub>9</sub>phenylalkyl, unsubstituted or C<sub>1</sub>-C<sub>4</sub>alkyl-substituted phenyl; unsubstituted or C<sub>1</sub>-C<sub>4</sub>alkyl-substituted C<sub>5</sub>-C<sub>8</sub>cycloalkyl; C<sub>1</sub>-C<sub>18</sub>alkoxy, C<sub>1</sub>-C<sub>18</sub>alkylthio, C<sub>1</sub>-C<sub>4</sub>alkylamino, di(C<sub>1</sub>-C<sub>4</sub>-alkyl)amino, C<sub>1</sub>-

$C_{25}$ alkanoyloxy,  $C_1$ - $C_{25}$ alkanoylamino,  $C_3$ - $C_{25}$ alkenoyloxy;  $C_3$ - $C_{25}$ alkanoyloxy which is interrupted by

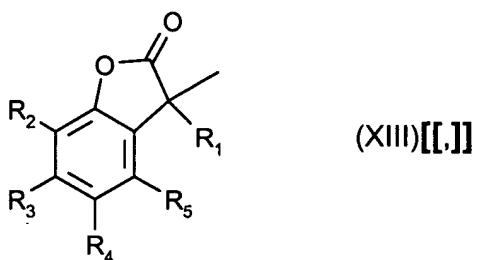
oxygen, sulfur or  $\text{N}-R_{14}$ ;  $C_6$ - $C_9$ cycloalkylcarbonyloxy, benzyloxy or  $C_1$ - $C_{12}$ alkyl-substituted

benzyloxy; or  $R_2$  and  $R_3$ , or  $R_3$  and  $R_4$ , or  $R_4$  and  $R_5$ , together with the linking carbon atoms, form a benzene ring,  $R_4$  is additionally  $-(CH_2)_p-COR_{15}$  or  $-(CH_2)_qOH$  or, if  $R_3$ ,  $R_5$  and  $R_6$  are hydrogen,  $R_4$  is additionally a radical of formula XII



wherein  $R_1$  is as defined above for  $n = 1$ ,

$R_6$  is hydrogen or a radical of formula XIII

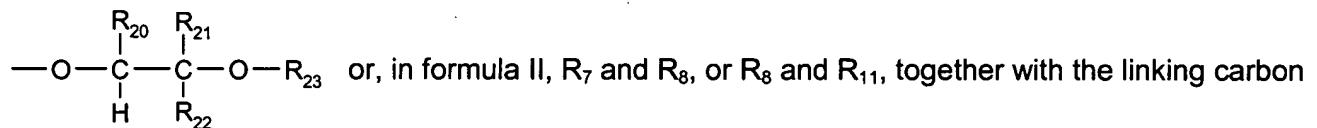


wherein  $R_4$  is not a radical of formula XII[[.]] and  $R_1$  is as defined above for  $n = 1$ ,

$R_7$ ,  $R_8$ ,  $R_9$ ,  $R_{10}$  and  $R_{11}$  are each independently of one another hydrogen, halogen, hydroxy,

$C_1$ - $C_{25}$ alkyl;  $C_2$ - $C_{25}$ alkyl which is interrupted by oxygen, sulfur or  $\text{N}-R_{14}$ ;  $C_1$ - $C_{25}$ alkoxy;

$\text{C}_2\text{-C}_{25}\text{alkoxy}$  which is interrupted by oxygen, sulfur or  $\text{N}-\text{R}_{14}$ ;  $\text{C}_1\text{-C}_{25}\text{alkylthio}$ ,  $\text{C}_3\text{-C}_{25}\text{-alkenyl}$ ,  $\text{C}_3\text{-C}_{25}\text{alkenyloxy}$ ,  $\text{C}_3\text{-C}_{25}\text{alkynyl}$ ,  $\text{C}_3\text{-C}_{25}\text{alkynyoxy}$ ,  $\text{C}_7\text{-C}_9\text{phenylalkyl}$ ,  $\text{C}_7\text{-C}_9\text{phenylalkoxy}$ , unsubstituted or  $\text{C}_1\text{-C}_4\text{alkyl}$ -substituted phenyl; unsubstituted or  $\text{C}_1\text{-C}_4\text{alkyl}$ -substituted phenoxy; unsubstituted or  $\text{C}_1\text{-C}_4\text{alkyl}$ -substituted  $\text{C}_5\text{-C}_8\text{cycloalkyl}$ ; unsubstituted or  $\text{C}_1\text{-C}_4\text{alkyl}$ -substituted  $\text{C}_5\text{-C}_8\text{cycloalkoxy}$ ;  $\text{C}_1\text{-C}_4\text{alkylamino}$ , di( $\text{C}_1\text{-C}_4\text{alkyl}$ )amino,  $\text{C}_1\text{-C}_{25}\text{alkanoyl}$ ;  $\text{C}_3\text{-C}_{25}\text{alkanoyl}$  which is interrupted by oxygen, sulfur or  $\text{N}-\text{R}_{14}$ ;  $\text{C}_1\text{-C}_{25}\text{alkanoyloxy}$ ;  $\text{C}_3\text{-C}_{25}\text{alkanoyloxy}$  which is interrupted by oxygen, sulfur or  $\text{N}-\text{R}_{14}$ ;  $\text{C}_1\text{-C}_{25}\text{alkanoylamino}$ ,  $\text{C}_3\text{-C}_{25}\text{alkenoyl}$ ;  $\text{C}_3\text{-C}_{25}\text{alkenoyl}$  which is interrupted by oxygen, sulfur or  $\text{N}-\text{R}_{14}$ ;  $\text{C}_3\text{-C}_{25}\text{alkenoyloxy}$ ;  $\text{C}_3\text{-C}_{25}\text{alkenoyloxy}$  which is interrupted by oxygen, sulfur or  $\text{N}-\text{R}_{14}$ ;  $\text{C}_6\text{-C}_9\text{cycloalkylcarbonyl}$ ,  $\text{C}_6\text{-C}_9\text{cycloalkylcarbonyloxy}$ , benzoyl or  $\text{C}_1\text{-C}_{12}\text{alkyl}$ -substituted benzoyl; benzoyloxy or  $\text{C}_1\text{-C}_{12}\text{alkyl}$ -substituted benzoyloxy;  $\text{O}-\text{C}(\text{R}_{18})-\text{C}(=\text{O})-\text{R}_{15}$  or



atoms, form a benzene ring,

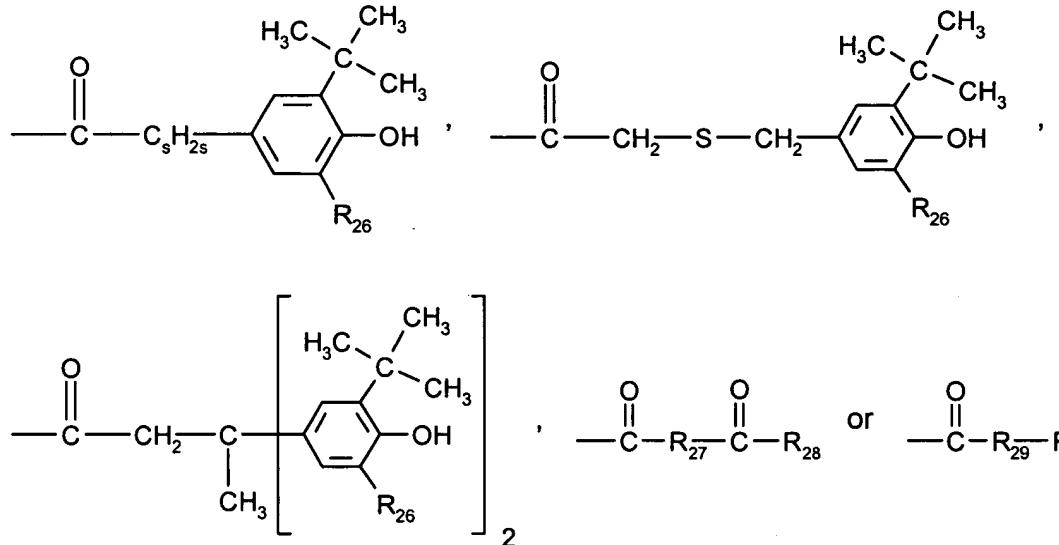
$\text{R}_{12}$  and  $\text{R}_{13}$  are each independently of the other unsubstituted or  $\text{C}_1\text{-C}_4\text{alkyl}$ -substituted phenylene or naphthylene,

$\text{R}_{14}$  is hydrogen or  $\text{C}_1\text{-C}_8\text{alkyl}$ ,

$\text{R}_{15}$  is hydroxy,  $\left[\text{O}^{-} \frac{1}{r} \text{M}^{r+}\right]$ ,  $\text{C}_1\text{-C}_{18}\text{alkoxy}$  or  $\text{N}(\text{R}_{24})\text{R}_{25}$ ,

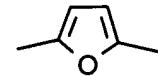
$\text{R}_{16}$  and  $\text{R}_{17}$  are each independently of the other hydrogen,  $\text{CF}_3$ ,  $\text{C}_1\text{-C}_{12}\text{alkyl}$  or phenyl, or  $\text{R}_{16}$  and  $\text{R}_{17}$ , together with the linking carbon atom, are a  $\text{C}_5\text{-C}_8\text{cycloalkylidene}$  ring which is unsubstituted or substituted by 1 to 3  $\text{C}_1\text{-C}_4\text{alkyl}$ ;

$R_{18}$  and  $R_{19}$  are each independently of the other hydrogen,  $C_1$ - $C_4$ alkyl or phenyl,  
 $R_{20}$  is hydrogen or  $C_1$ - $C_4$ alkyl,  
 $R_{21}$  is hydrogen, unsubstituted or  $C_1$ - $C_4$ alkyl-substituted phenyl;  $C_1$ - $C_{25}$ alkyl;  $C_2$ - $C_{25}$ alkyl which is interrupted by oxygen, sulfur or  $\text{N}—R_{14}$ ;  $C_7$ - $C_9$ phenylalkyl which is unsubstituted or substituted at the phenyl moiety by 1 to 3  $C_1$ - $C_4$ alkyl;  $C_7$ - $C_{25}$ phenylalkyl which is interrupted by oxygen, sulfur or  $\text{N}—R_{14}$  and which is unsubstituted or substituted at the phenyl moiety by 1 to 3  $C_1$ - $C_4$ alkyl, or  $R_{20}$  and  $R_{21}$ , together with the linking carbon atoms, form a  $C_5$ - $C_{12}$ cycloalkylene ring which is unsubstituted or substituted by 1 to 3  $C_1$ - $C_4$ alkyl;  
 $R_{22}$  is hydrogen or  $C_1$ - $C_4$ alkyl,  
 $R_{23}$  is hydrogen,  $C_1$ - $C_{25}$ alkanoyl,  $C_3$ - $C_{25}$ alkenoyl;  $C_3$ - $C_{25}$ alkanoyl which is interrupted by oxygen, sulfur or  $\text{N}—R_{14}$ ;  $C_2$ - $C_{25}$ alkanoyl which is substituted by a di( $C_1$ - $C_6$ alkyl)phosphonate group;  
 $C_6$ - $C_9$ cycloalkylcarbonyl, thenoyl, furoyl, benzoyl or  $C_1$ - $C_{12}$ alkyl-substituted benzoyl;

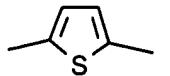


$R_{24}$  and  $R_{25}$  are each independently of the other hydrogen or  $C_1$ - $C_{18}$ alkyl,  
 $R_{26}$  is hydrogen or  $C_1$ - $C_8$ alkyl,  
 $R_{27}$  is a direct bond,  $C_1$ - $C_{18}$ alkylene;  $C_2$ - $C_{18}$ alkylene which is interrupted by oxygen, sulfur or  $\text{N}—R_{14}$ ;  $C_2$ - $C_{18}$ alkenylene,  $C_2$ - $C_{20}$ alkylidene,  $C_7$ - $C_{20}$ phenylalkylidene,  $C_5$ - $C_8$ cycloalkylene,  $C_7$ -

C<sub>8</sub>bicycloalkylene, unsubstituted or C<sub>1</sub>-C<sub>4</sub>alkyl-substituted phenylene,



or



R<sub>28</sub> is hydroxy,  $\left[ -O - \frac{1}{r} M^{r+} \right]$ , C<sub>1</sub>-C<sub>18</sub>alkoxy or  $\begin{array}{c} R_{24} \\ | \\ -N- \\ | \\ R_{25} \end{array}$ ,

R<sub>29</sub> is oxygen, -NH- or

R<sub>30</sub> is C<sub>1</sub>-C<sub>18</sub>alkyl or phenyl,

R<sub>31</sub> is hydrogen or C<sub>1</sub>-C<sub>18</sub>alkyl,

M is an r-valent metal cation,

X is a direct bond, oxygen, sulfur or -NR<sub>31</sub>- ,

n is 1 or 2,

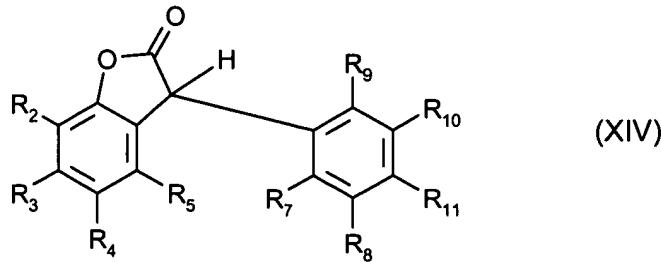
p is 0, 1 or 2,

q is 1, 2, 3, 4, 5 or 6,

r is 1, 2 or 3[[,]] and

s is 0, 1 or 2.

**11. (currently amended)** A process according to claim 10 wherein the benzofuran-2-one type compound is of formula XIV



wherein

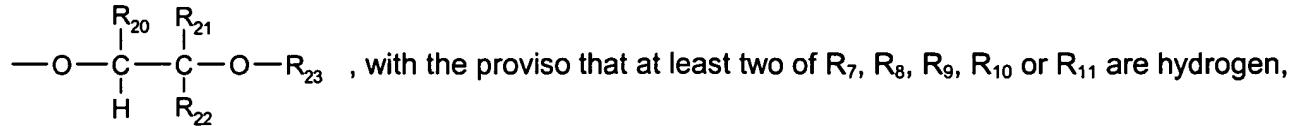
$R_2$  is hydrogen or  $C_1$ - $C_6$ alkyl,

$R_3$  is hydrogen,

$R_4$  is hydrogen or  $C_1$ - $C_6$ alkyl,

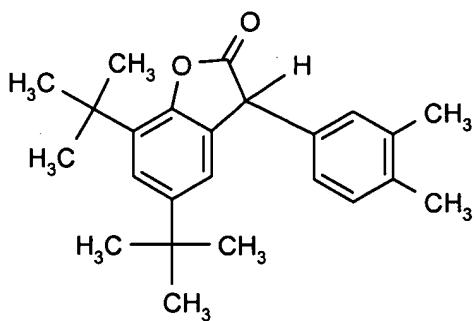
$R_5$  is hydrogen,

$R_7$ ,  $R_8$ ,  $R_9$ ,  $R_{10}$  and  $R_{11}$  are each independently of one another hydrogen,  $C_1$ - $C_4$ alkyl,  $C_1$ - $C_4$ -alkoxy or

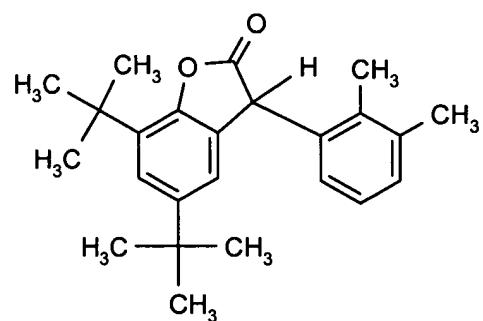


$R_{23}$  is  $C_2$ - $C_4$ alkanoyl.

**12. (original)** A process according to claim 11 wherein the benzofuran-2-one type compound is of formula XIVa or XIVb



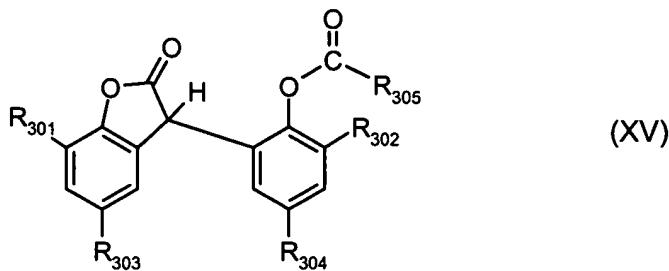
(XIVa)



(XIVb)

or a mixture or blend of the two compounds of formulae XIVa and XIVb.

**13. (currently amended)** A process according to claim 1 wherein the benzofuran-2-one type compound is of formula XV



wherein

$R_{301}$  and  $R_{302}$  are each independently of one another hydrogen or  $C_1$ - $C_8$ alkyl,

$R_{303}$  and  $R_{304}$  are each independently of one another  $C_1$ - $C_{12}$ alkyl[[,]] and

$R_{305}$  is  $C_1$ - $C_7$ alkyl.

**14. (original)** A process according to claim 1 wherein the bis-acyllactam is used in an amount of 0.01 to 5 % by weight based on the weight of the polycondensate.

**15. (original)** A process according to claim 1 wherein the phosphite, phosphinate or phosphonate is used in an amount of 0.01 to 5 % by weight based on the weight of the polycondensate.

**16. (original)** A process according to claim 1 wherein the benzofuran-2-one type compound is used in an amount of 0.01 to 5 % by weight based on the weight of the polycondensate.

**17. (currently amended)** A process according to claim 1 wherein the ratio of the bis-acyllactam to b1) the phosphite, phosphinate[[,]] or phosphonate or to b2) the benzofuran-2-one type compound or to b3) the sum of all is from 1:10 to 5:1.

**18. (original)** A process according to claim 1 wherein the maximum mass-temperature of the melt is from 170° to 320° C.

**19. (original)** A process according to claim 1 wherein an oxazoline compound is additionally present.

**20. (currently amended)** A composition comprising

- a) a polycondensate;
- b) at least one bis-acyllactam~~[:]~~ and
  - c1) at least one phosphite, phosphinate or phosphonate; or
  - c2) at least one benzofuran-2-one type compound or
  - c3) at least one phosphite, phosphinate or phosphonate and one benzofuran-2-one type compound.

**21. (currently amended)** A polycondensate obtained~~able~~ by a process according to claim 1.

**22. (canceled)**